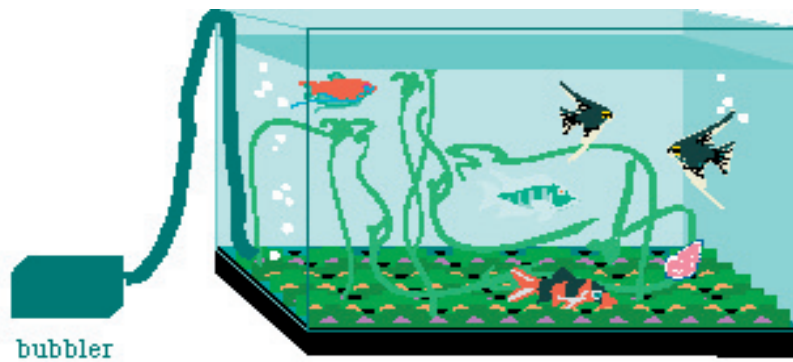


**Multiple Choice**

1. Which list contains only nonliving things in an environment?
  - A. snails, water, mushrooms
  - B. soil, trees, worms
  - C. sunlight, water, soil
  - D. rocks, snails, grass
  
2. How do you know a dog is alive?
  - A. It can see, hear, and smell.
  - B. It can move, grow and reproduce.
  - C. It lives in a doghouse.
  - D. It has an owner who is alive.
  
3. Which of the following is a living organism?
  - A. a rock
  - B. a mountain
  - C. air
  - D. a plant
  
4. What will happen to the grass of a lawn in Utah if it is not watered in the summer?
  - A. it will get shorter
  - B. it will turn brown and look dead
  - C. it will grow longer and turn green
  - D. it will stay the same
  
5. A student observes an unknown thing. Over time, the thing moves, grows and reproduces. What does the student now know about it?
  - A. It is dead.
  - B. It is nonliving.
  - C. It is alive.
  - D. It is a plant.



**Use this aquarium to answer the next four questions.**

**6.** What part of this environment is nonliving?

- A. fish
- B. plants
- C. water
- D. snail

**7.** What would happen if the aquarium were placed in the dark for a week?

- A. Living things would begin to die.
- B. Nonliving things would begin to die.
- C. The water would dry out or freeze to ice.
- D. No changes would take place.

**8.** How is this environment different from a real pond?

- A. Plants and animals do not interact with each other in a pond.
- B. Ponds with growing plants do not need a bubbler for air.
- C. A pond has fewer types of fish and plants.
- D. The fish need less air to breath in a pond.

**9.** A student wants to know how living and nonliving things interact. What question could the student ask using this aquarium?

- A. Do fish like living in an aquarium?
- B. Do fish like warm or cool water?
- C. Where did the fish come from?
- D. Do fish have dreams?

## **Constructed Response**

1. List 3 living things in your classroom.
2. List 3 nonliving things in your classroom.
3. How would you know if something were alive or not? Describe three ways you would know.
4. What are 3 ways an aquarium is different from a pond?
5. What are 3 ways an aquarium is like a pond?

## **Answers for Standard 2 Unit Test.**

### **Multiple Choice:**

1. C
2. B
3. D
4. B
5. C
6. C
7. A
8. B
9. B

### **Constructed Response.**

1. Answers will vary.
2. Answers will vary.
3. Possible answers include movement, reproduction, and growth, (use of food and creation of wastes.)
4. An aquarium is smaller than a pond and contains fewer types of plants and animals and usually needs a bubbler. Food is often added for the fish in an aquarium and temperature may be controlled by a heater.
5. Aquariums and ponds both contain water, living things, air, and may be the same temperature.

## **Performance Test**

### **Activity Description**

Students will build a small terrarium and investigate interactions between living and non-living things.

### **Materials Needed**

clear plastic 1 or 2 liter pop bottles (tops cut off, bottoms pulled off),

plants (chunks of sod from a lawn, alfalfa sprouts or purchased potted plants)

insects such as pill bugs or ants (students may bring them from their yards or you may want to take the class to the school yard to collect them),

soil, water, plastic wrap, rubber bands, student sheet (included)

### **Prior to Assessment**

Students should be familiar with the definition for environment, characteristics of living and nonliving things, and understand that living and non-living things interact in an environment.

### **Time Needed for Assessment**

1 hour to set up. 15 minutes/day for observation over a period of 3-4 weeks.

### **Procedures**

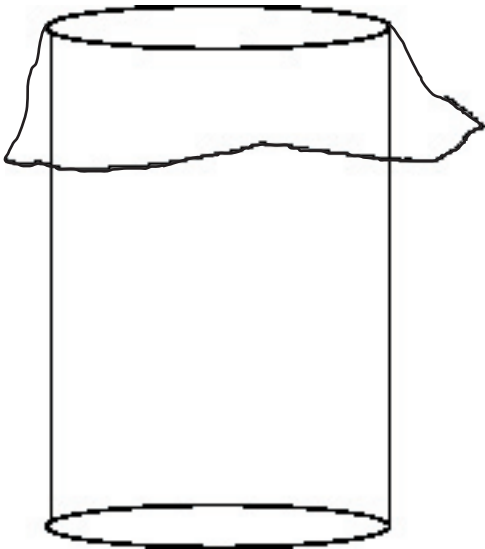
1. Place students in groups of three or four. Show students where materials are located.
2. Students should discuss and design their environment before they begin. Allow them to add whatever combinations of the materials they desire.
3. Allow time for students to build the terrarium and add the insects. A piece of plastic wrap should go over the top and the rubber band will hold it in place. Students should draw the terrarium.
4. Terrariums should be placed in a lighted area but not in direct sunlight. Some loss of insect life should be expected and students should be warned of this possibility.
5. Students should observe and record data for several weeks as their terrariums mature. The student sheet may be used to record data.
6. An extension to this activity would be to have students pick one thing to change in their terrarium. They could add more light, less light, a warmer place or cooler. The chances of insect death go up as these changes are added.
7. The terrariums can be deconstructed when maximum learning has taken place. Insects can be returned to their original homes. A final drawing should be made of the terrarium.
8. Students should answer questions on the student sheet to summarize.

### **Suggested Scoring Guide:**

1. Student uses time wisely in group work.....5 pts
2. Student follows directions..... 5 pts
3. Student makes observations and records data.....15 pts
4. Student correctly answers questions.....5 pts

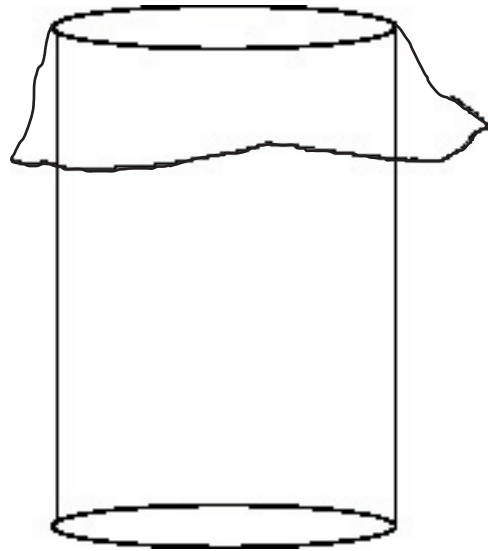
Draw your terrarium on the first day:

What did you put in it?



Date	Observations of living organisms and non-living things in terrarium

Draw your terrarium on the last day:



Questions:

1. Describe three interactions between the living organisms in your terrarium and the non-living things in your terrarium.
2. What changed the most in the terrarium as time went by?
3. Why do you think that happened?
4. What would you do differently if you could start building the terrarium over?
5. What is a question you could ask and answer with your terrarium?
6. How is your terrarium different from the environment the insects usually have?